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A STUDY OF COTTON MARKET CONDITIONS IN NORTH CAROLINA WITH A VIEW TO THEIR IMPROVEMENT.

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INTRODUCTION.

The investigations described in this bulletin were made for the purpose of ascertaining the value to the cotton producer of knowing the class of his cotton before sale and for the purpose of determining whether this information could be furnished to producers by disinterested parties with practical results. It is realized that in the marketing of cotton by producers a knowledge of class before sale is only one of a number of related problems, some of which were studied and are discussed in this paper.

A detailed investigation of local conditions affecting the marketing of cotton was made in North Carolina during two seasons. This investigation was confined to the eastern part of the State during the season of 1914–15, and embraced all cotton-producing sections during the season of 1915–16.

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METHOD OF PROCEDURE.

Arrangements were made with practically every ginner in Edgecombe County to sample each bale of cotton ginned during the 1914–15 season and mail the samples to the classing room at Tarboro.[1] Samples from about 10,700 bales ginned in the county were received. These samples were graded and stapled, and this information was mailed to the producer on a card, numbered to correspond with the bale from which the sample was taken, with a letter explaining in detail the purpose of the investigation. The farmers were circularized frequently, to help them to understand the approximate differences in prices that should be made between grades.

The investigation was conducted in a similar manner during the 1915–16 season on an enlarged scale, classers being appointed for the following counties: Edgecombe (the cotton ginned in Nash County was classed by the Edgecombe classer also), Mecklenburg, Wilson, and Wayne.[2] Samples from about 30,000 bales ginned in these counties were received and classed.

Samplers were appointed during the 1914–15 season at Fayetteville, Goldsboro, and Scotland Neck, all of which are located on the Coastal Plain section, to collect samples of bales of cotton, sold at these towns, the class of which was unknown to the producer before sale. Inclosed with each sample sent to the classing room at Tarboro was a record slip giving the price at which the bale sold and the date of sale. About 3,500 samples of bales of cotton sold at these towns were received. During the season of 1915–16 the collection of samples in this manner was extended to include Ahoskie, Clinton, Gastonia, Jacksonville, Kings Mountain, Kinston, Laurinburg, Louisburg, New Berne, Raleigh, Red Springs, Salisbury, Selma, Statesville, Wadesboro, and Washington. Samples drawn from about 14,000 bales sold at these towns were received. An attempt is made in the map (see fig. 1) to illustrate the extent to which these towns represent the cotton-producing area of the State.

CHARACTER OF THE COTTON PRODUCED IN NORTH CAROLINA.

AVERAGE GRADE AND LENGTH OF STAPLE.

During the season of 1914–15 the average grade of the bales sampled in North Carolina was slightly below Middling, although about 33⅓ per cent was Strict Middling or above. During 1915–16 the average grade was nearly Strict Middling, about 48 per cent

[1] The authors desire to express their appreciation of the cooperation and assistance of the ginners, which contributed greatly to the success of this investigation. Mr. Fred Taylor, Cotton Technologist of the United States Department of Agriculture, supervised the study.

[2] The investigation in Edgecombe proving successful, the North Carolina Legislature passed a law (chap. 175, Public Laws, 1915) which authorizes county commissioners to employ county classers in cooperation with the North Carolina Agricultural Experiment Station, the United States Department of Agriculture, or both, acting together.

being Strict Middling or above. This difference is accounted for by the better weather which prevailed during the latter picking season.

Only 2 per cent of the bales classed during the season of 1914–15 were less than $\frac{7}{8}$ of an inch in length of staple; 61 per cent was $\frac{7}{8}$ of an inch, and 37 per cent longer than $\frac{7}{8}$ of an inch. The average length of staple for the samples taken during the season was approximately 0.90 inch. During the season 1915–16 (see Table I) approximately $3\frac{1}{2}$ per cent of the bales classed were less than $\frac{7}{8}$ of an inch in length of staple; 50 per cent were $\frac{7}{8}$ of an inch, and $46\frac{1}{2}$ per cent more than $\frac{7}{8}$ of an inch. The average length of staple was approximately 0.92 inch. This longer length of staple shown for the season of 1915–16 is explained by the fact that samples were

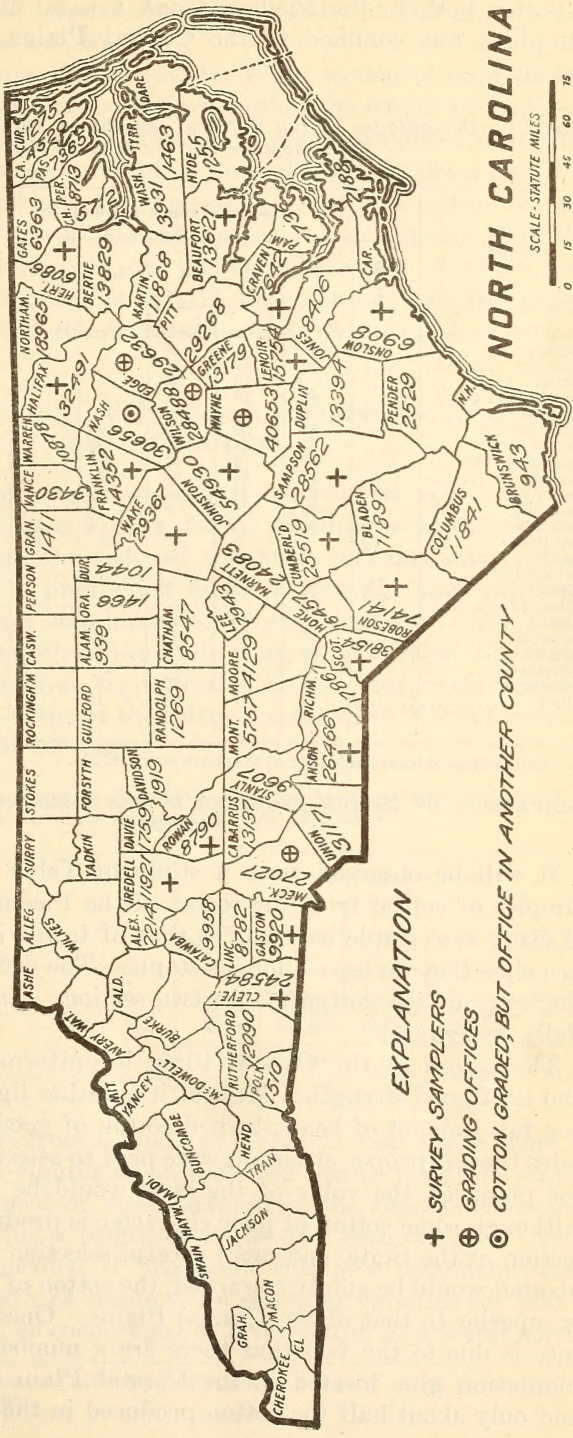

FIG. 1.—Map of North Carolina, showing production of bales of cotton by counties for 1914–15 season.

collected both in the Piedmont and Coastal Plains sections, while sampling was confined to the Coastal Plains during the 1914–15 season.

TABLE I.—*Percentages of the different lengths of staple of cotton sampled in each town during the 1915–16 season.*

Market.	Length of staple in inches.							Section.	Average staple length.
	Less than $\frac{7}{8}$.	$\frac{7}{8}$	$1\frac{1}{16}$	1	$1\frac{1}{16}$	$1\frac{1}{8}$	$1\frac{3}{16}$ and longer.		
	Per ct.	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*		
Ahoskie	25	65	7	2	1	.....	.....	Coastal	0.86
Charlotte	$\frac{1}{2}$	36	15	38	4	4	2	Piedmont	.95
Clinton	.....	$\frac{1}{2}$	18	80	$1\frac{1}{2}$	.....	.....	Coastal	1.00
Fayetteville	.....	82	16	2	.....	.....	.....	do	.875
Gastonia	$1\frac{1}{2}$	3	7	36	30	8	14	Piedmont	1.06
Goldsboro	1	65	30	$3\frac{1}{2}$	$\frac{1}{2}$	.....	.....	Coastal	.91
Jacksonville	.....	26	$45\frac{1}{2}$	26	$2\frac{1}{2}$	.....	.....	do	.94
Kings Mountain	.....	1	2	43	50	2	1	Piedmont	1.03
Kinston	2	21	35	37	3	$1\frac{1}{2}$	.....	Coastal	.95
Laurinburg	.....	27	59	14	.....	.....	.....	do	.94
Louisburg	$1\frac{1}{2}$	39	58	1	.....	$\frac{1}{2}$	.....	Piedmont	.94
Nashville	5	86	$7\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	.....	$\frac{1}{2}$	Coastal	.875
New Berne	$\frac{1}{2}$	3	5	33	50	8	$\frac{1}{2}$	do	.97
Raleigh	.....	42	48	10	.....	.....	.....	Piedmont	.94
Red Springs	.....	71	$28\frac{1}{2}$	$\frac{1}{2}$	.....	.....	.....	Coastal	.875
Salisbury	$\frac{1}{2}$	30	$62\frac{1}{2}$	$7\frac{1}{2}$	$\frac{1}{2}$	.....	.....	Piedmont	.94
Scotland Neck	22	70	$7\frac{1}{2}$	.....	.....	.....	$\frac{1}{2}$	Coastal	.875
Selma	2	35	50	13	.....	.....	.....	do	.94
Statesville	.....	1	16	28	52	3	.....	Piedmont	1.03
Tarboro	5	80	12	2	.....	1	.....	Coastal	.88
Wadesboro	.....	1	7	60	31	$\frac{1}{2}$	$\frac{1}{2}$	Piedmont	1.00
Washington	.....	31	33	32	3	.....	.....	Coastal	.94
Wilson	.....	27	9	62	$1\frac{1}{2}$	$\frac{1}{2}$	.....	do	.97

Total number of bales stapled for all the above towns, 25,020.

COMPARISON OF COTTON PRODUCED IN THE PIEDMONT AND COASTAL PLAIN SECTIONS.

It will be observed from a study of Table I that although the samples of cotton from the towns of the Piedmont section have not in every case staple superior to that of towns in the Coastal Plain, as a class they do have a longer staple. The difference in the general character of the cotton of the two sections is marked and commercially recognized.

The cotton of the Coastal Plain is uniform in length of staple and is of good strength. Most of it is rather light in body, but there is a fair amount of heavy-bodied cotton of good quality. This indicates that, if proper attention were paid to selecting suitable varieties for planting, the value of the crop would be materially increased. Although some cotton of poor character is produced in the Piedmont section of the State, and more careful selection of the varieties to be planted would be amply rewarded, the cotton of the Piedmont section is superior to that of the Coastal Plains. One cause for this difference is due to the fact that there are a number of small, primitive plantation gins located in the Coastal Plain section of the State, and only about half the cotton produced in that section is ginned at

large, modern custom gins, while the majority of the gins in the Piedmont section are well equipped.

There is less incentive in the Coastal Plain section to improve the character of the cotton produced since neither the length of staple of individual bales nor the average length of staple produced in a community seems to have any weight in determining the price paid for certain bales or the relative standing of the town as a cotton market. This is not true of the Piedmont section, as it appears that the length of staple of each bale and the average length of staple produced in a community are factors in determining both the prices of individual bales and the relatively higher prices paid at certain markets.

PRODUCTION COMPARED WITH CONSUMPTION OF COTTON IN NORTH CAROLINA.

A matter worthy of serious consideration by buyers and consumers as well as producers of cotton in North Carolina is that, notwithstanding the fact that the mills of the State consume more cotton than is produced in it, production does not meet the peculiar needs of consumption from a standpoint of length of staple. (See Table II.) A survey of the mills of the State made by the Division of Markets of the North Carolina Agricultural Experiment Station shows that more than three-fifths of the cotton consumed in North Carolina is produced outside of the State.

TABLE II.—*Comparison of lengths of staple of cotton produced and consumed in North Carolina during the 1914–15 season.*

	Length of staple in inches.				
	Less than $\frac{7}{8}$.	$\frac{7}{8}$	$\frac{15}{16}$	1	$1\frac{1}{16}$ or longer.
	Bales.	*Bales.*	*Bales.*	*Bales.*	*Bales.*
Produced	28,000	400,000	160,000	152,000	56,000
Consumed	27,000	300,000	180,000	234,000	144,000
Overproduction	1,000	100,000			
Underproduction			20,000	82,000	88,000

It will be observed from a study of Table II that while there is more cotton of seven-eighths of an inch and less in length of staple raised than is consumed or manufactured in the State, the reverse is true of cotton having a length of staple of 1 inch or more. This condition can be remedied if producers will give reasonable consideration to the length of staple when selecting varieties for planting.[1] Producers will be encouraged to grow cotton of a better staple

[1] Cook, O. F. The Relation of Cotton Buying to Cotton Growing. U. S. Department of Agriculture, Bulletin No. 60.

if buyers will use proper discrimination in the prices paid for different lengths of staple. Production to meet the requirements of State consumption might enable the mills to secure their supplies more economically through the reduction of freight and other charges, which condition might result in turn in higher prices being paid locally for cotton.

RELATIVE MERITS OF CERTAIN PRIMARY MARKETS IN NORTH CAROLINA.

COMPARISON OF PRIMARY MARKETS IN THE COASTAL PLAIN SECTION.

An effort was made to ascertain the relative importance of certain primary markets in the Coastal Plain section. In order to make the comparison as accurate as possible a record was made of prices received for unclassed cotton of the same grades on the same dates in any two of the markets. The resulting averages shown in Table III indicate accurately the differences in prices which existed in any two markets. The prices received in Fayetteville, for instance, averaged 11.64 cents for cotton of the same grades sold on the same dates which brought 11.67 cents in Ahoskie. Again, the prices received for cotton of the same grades sold on the same dates in Fayetteville and Clinton averaged 11.98 cents and 11.92 cents, respectively.

A study of this table shows that the average length of staple at a town has no apparent bearing upon its relative merit as a market. As an example, Ahoskie with an average length of staple of less than $\frac{7}{8}$ of an inch paid an average of 27 points, or $1.35 per bale, more than Clinton with an average length of staple of 1 inch.

Special attention is called to the statement for the town of New Berne in Table III and also in Table I. The fact that a superior staple is produced in that section evidently is not known to the producers and probably not to the local buyers, as the market averages low in price and no distinction is made between different lengths of staple. A study of the record slips showed that cotton only $\frac{7}{8}$ of an inch in length of staple in every instance brought as much as cotton $1\frac{1}{8}$ and $1\frac{3}{16}$ inches in length of staple, when as a matter of fact the difference in value is from $10 to $15 a bale.

From the standpoint of price the relative merits of these markets seemingly were: 1st, Fayetteville; 2d, Ahoskie; 3d, Kinston; 4th, Jacksonville; 5th, Selma, 6th, Clinton; 7th, New Berne; 8th, Laurinburg; 9th, Washington; 10th, Scotland Neck; and 11th, Red Springs.

TABLE III.—*Comparison of average price per pound received for unclassed cotton at primary markets in Coastal Plain section, season 1915–16, grade and date of sale coinciding.*

[Prices in boldface figures apply to towns in boldface type. Prices in lightface figures apply to towns in lightface type.]

	Ahoskie.	Clinton.	Fayetteville.	Jacksonville.	Kinston.	Laurinburg.	New Berne.	Red Springs.	Scotland Neck.	Selma.	Washington.	Average.	Average length of staple.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*In.*
Ahoskie	.....	11.03	11.64	11.52	11.37	11.01	11.42	10.93	10.96	11.67	11.35	11.29	.....
	.....	**11.30**	**11.67**	**11.52**	**11.27**	**11.38**	**11.39**	**11.42**	**11.30**	**11.47**	**11.42**	**11.41**	**0.860**
Clinton	11.30	.....	11.98	12.00	11.44	10.37	11.51	10.69	11.04	11.04	11.75	11.31	.....
	11.03	.....	**11.92**	**11.91**	**11.35**	**10.67**	**11.40**	**11.20**	**11.19**	**11.25**	**11.76**	**11.36**	**1.000**
Fayetteville	11.67	11.92	.....	10.96	11.51	10.91	11.16	10.80	11.07	10.76	10.83	11.15	.....
	11.64	**11.98**	.....	**11.18**	**11.63**	**11.10**	**11.36**	**10.96**	**11.36**	**10.79**	**11.13**	**11.31**	**.875**
Jacksonville	11.52	11.91	11.18	.....	11.87	11.08	11.92	10.88	11.38	10.41	11.68	11.31	.....
	11.52	**12.00**	**10.96**	.....	**11.71**	**11.36**	**12.00**	**10.83**	**11.55**	**10.38**	**11.81**	**11.41**	**.940**
Kinston	11.27	11.35	11.63	11.71	.....	10.81	11.27	11.16	10.91	11.32	11.27	11.27	.....
	11.37	**11.44**	**11.51**	**11.87**	.....	**10.89**	**11.38**	**11.58**	**11.23**	**11.25**	**11.44**	**11.39**	**.950**
Laurinburg	11.38	10.67	11.10	11.36	10.89	.....	10.72	10.88	10.80	11.07	10.39	10.92	.....
	11.01	**10.37**	**10.91**	**11.08**	**10.81**	.....	**10.87**	**10.88**	**10.72**	**10.99**	**11.16**	**10.88**	**.940**
New Berne	11.39	11.40	11.36	12.00	11.38	10.87	.....	11.10	11.12	11.12	11.22	11.29	.....
	11.42	**11.51**	**11.16**	**11.92**	**11.27**	**10.72**	.....	**11.44**	**11.34**	**10.95**	**11.25**	**11.29**	**.970**
Red Springs	11.42	11.20	10.96	10.83	11.58	10.88	11.44	.....*	10.94	11.20	11.05	11.15	.....
	10.93	**10.69**	**10.80**	**10.88**	**11.16**	**10.88**	**11.10**	.....	**10.78**	**10.91**	**11.06**	**10.91**	**.875**
Scotland Neck	11.30	11.19	11.36	11.55	11.23	10.72	11.34	10.78	.....	11.28	11.23	11.19	.....
	10.96	**11.04**	**11.07**	**11.38**	**10.91**	**10.80**	**11.12**	**10.94**	.....	**10.92**	**10.96**	**11.01**	**.875**
Selma	11.47	11.25	10.79	10.38	11.25	10.99	10.95	10.91	10.92	.....	11.02	10.99	.....
	11.67	**11.04**	**10.76**	**10.41**	**11.32**	**11.07**	**11.12**	**11.20**	**11.28**	.....	**11.25**	**11.11**	**.940**
Washington	11.42	11.76	11.13	11.81	11.44	11.16	11.25	11.06	10.96	11.25	.....	11.32	.....
	11.35	**11.75**	**10.83**	**11.68**	**11.27**	**10.39**	**11.22**	**11.05**	**11.23**	**11.02**	.....	**11.17**	**.940**

COMPARISON OF PRIMARY MARKETS IN THE PIEDMONT SECTION.

A comparison of the average prices paid for the same grades of cotton on the same dates at certain towns in the Piedmont section is given in Table IV.

Attention is called to the fact that with the exception of Salisbury as compared with Statesville the markets compared as to prices in direct ratio to their average length of staple. A possible explanation of this exception is that there are supply merchants who buy cotton at Salisbury, while such is not the case at Statesville.

From the standpoint of price the relative merits of these markets seemingly were: First, Gastonia; second, Kings Mountain; third, Wadesboro; fourth, Salisbury; fifth, Statesville; sixth, Raleigh; and seventh, Louisburg.

TABLE IV.—*Comparison of average price per pound received for unclassed cotton at primary markets in Piedmont section during the 1915–16 season, grade and date of sale coinciding.*

[Prices in boldface figures apply to towns in boldface type. Prices in lightface figures apply to towns in lightface type.]

	Gastonia.	Kings Mountain.	Louisburg.	Raleigh.	Salisbury.	Statesville.	Wadesboro.	Average.	Average length of staple.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Inches.*
Gastonia	.....	12.03	11.79	11.64	11.68	11.75	11.81	11.61	.....
	.....	**12.69**	**12.66**	**12.79**	**12.65**	**12.73**	**12.42**	**12.65**	**1.06**
Kings Mountain	12.69	.....	11.69	11.72	11.88	11.74	11.74	11.91	.....
	12.03	.....	**12.16**	**11.95**	**12.02**	**11.73**	**12.15**	**12.00**	**1.03**
Louisburg	12.66	12.16	.....	11.52	11.94	11.58	11.81	11.94	.....
	11.79	**11.69**	.....	**11.50**	**11.68**	**11.56**	**11.85**	**11.68**	**.94**
Raleigh	12.79	11.95	11.50	.....	11.73	11.45	11.72	11.85	.....
	11.64	**11.72**	**11.52**	.....	**11.55**	**11.50**	**11.68**	**11.60**	**.94**
Salisbury	12.65	12.02	11.68	11.55	.....	11.57	11.81	11.88	.....
	11.78	**11.88**	**11.94**	**11.73**	.....	**11.78**	**11.71**	**11.78**	**.94**
Statesville	12.73	11.73	11.56	11.50	11.78	.....	11.85	11.86	.....
	11.75	**11.74**	**11.58**	**11.45**	**11.57**	.....	**11.82**	**11.65**	**1.03**
Wadesboro	12.42	12.15	11.85	11.68	11.71	11 82	.....	11.94	.....
	11.81	**11.74**	**11.81**	**11.72**	**11.81**	**11.85**	.....	**11.96**	**1.00**

COMPARISON OF PIEDMONT SECTION WITH THE COASTAL PLAIN SECTION.

A comparison of the last two columns of Tables III and IV shows that cotton produced in the Coastal Plain did not bring as high average prices as cotton of the same length of staple produced in the Piedmont section. This difference may be accounted for, in part, by the better body of the cotton produced in the Piedmont section, but the difference in value between the types of cotton produced in the two sections is not sufficient to account for all of this difference. A probable reason is that more careful recognition is given to the class of individual bales in the Piedmont section than in the Coastal Plain section.

The fact that producers are able to secure premiums for bales of superior grades and staples in the Piedmont section seems to be a sufficient reason to account for the greater care that is exercised in the picking and handling of the cotton produced in that section, as

evidenced by the much higher average grade. Furthermore, it seems evident that the failure of buyers in the Coastal Plain section to give producers premiums for superior cottons has had a deleterious effect upon the cotton produced. In the Coastal Plains cotton is bought according to a system of averages, while in the Piedmont section reasonable consideration is given to the class of individual bales.

COMPARISON OF CASH WITH CREDIT SALES.

The average prices for cash sales and for sales which are credited to the owner's account by a merchant, as tabulated by the department, showed a seeming advantage for credit sales of about 15 points, or 75 cents per bale. It is generally conceded that a merchant who does not depend upon the handling of cotton for a livelihood, but who uses it to collect accounts and induce trade, will handle cotton for the mere cost, sometimes even at a loss.

Important facts in this study were developed from an examination of the individual sales. While the majority of credit sales were slightly higher than average cash sales for the same grades, the range between high and low prices was much greater for sales on account than for cash sales. A number of credit sales were materially higher than cash sales, but some credit sales were much lower than the average cash sales. This indicates that the financial condition of the seller enters into sales on account. The highest price seemingly is paid to those who have no security except their cotton. Such parties frequently are charged a higher price for supplies that they purchase. Therefore, the higher price paid for cotton, the proceeds from which are credited to their account, is in a large measure, if not entirely, offset by the higher prices charged for merchandise.

PRICES RECEIVED FOR CLASSED COTTON COMPARED WITH PRICES RECEIVED FOR UNCLASSED COTTON.

COASTAL PLAIN SECTION.

A comparison of the average prices paid for cotton of the same grades sold on the same dates during the 1914–15 season in Tarboro, Edgecombe County, where it was classed, and three other towns in the Coastal Plain section where it was unclassed is shown in Table V. It will be noted that the cotton classed before sale brought an average of 18 points, or $0.90 per bale, more than did the unclassed cotton sold on the same dates at Fayetteville, Goldsboro, and Scotland Neck. Upon this basis the farmers of Edgecombe County, as a direct result of the grading service rendered them, received about $12,000 more than they otherwise would have received for the season's crop.

TABLE V.—*Comparison of average prices per pound received for classed and unclassed cotton of the same grades sold on the same dates during the 1914–15 season.*

[Prices in boldface figures apply to town in boldface type. Prices in lightface figures apply to towns in lightface type.]

Market selling classed cotton.	Markets selling unclassed cotton.			Average.
	Fayetteville.	Goldsboro.	Scotland Neck.	
	Cents.	*Cents.*	*Cents.*	*Cents.*
Tarboro	6.98 **7.15**	7.04 **7.19**	6.77 **6.99**	6.93 **7.11**
Difference in price	.17	.15	.22	.18

TABLE VI.—*Comparison of average prices per pound received for classed cotton and unclassed cotton of the same grades on the same days in the Coastal Plain section, 1915–16 season.*

[Prices in boldface figures apply to town in boldface type. Prices in lightface figures apply to towns in lightface figures.]

Markets selling classed cotton.	Markets selling unclassed cotton.											Average.	Average length of staple.
	Ahoskie.	Clinton.	Fayetteville.	Jacksonville.	Kinston.	Laurinburg.	New Berne.	Red Springs.	Scotland Neck.	Selma.	Washington.		
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Inches*
Goldsboro	11.32 **11.40**	11.11 **11.51**	11.43 **11.52**	11.75 **12.15**	11.57 **11.69**	9.75 **11.00**	11.32 **11.80**	10.63 **11.48**	10.91 **11.54**	11.00 **12.00**	11.56 **12.00**	11.12 **11.64**	**0.91**
Tarboro	11.41 **11.29**	11.34 **11.40**	11.28 **11.27**	11.35 **11.30**	11.48 **11.44**	11.21 **11.26**	11.46 **11.37**	10.71 **11.10**	10.90 **11.12**	11.21 **11.10**	10.89 **11.26**	11.22 **11.27**	.88
Wilson	11.41 **11.63**	11.36 **11.52**	11.50 **11.81**	11.78 **12.04**	11.53 **11.57**	10.97 **11.60**	11.60 **11.64**	10.61 **11.55**	11.00 **11.45**	11.66 **11.54**	11.22 **11.95**	11.33 **11.66**	.97
Average difference in prices between each town and Goldsboro, Tarboro, and Wilson	−.06	−.20	−.13	−.21	−.08	−.64	−.14	−.72	−.44	−.18	−.51	−.30	[a].92
Average of length staple (inches)	.86	1.00	.875	.94	.95	.94	.97	.875	.875	.94	.94	[a].93	.....

[a] General average.

During the 1915–16 season the service rendered at Tarboro was extended to Goldsboro and Wilson, in the Coastal Plain section, with the result that at the towns where cotton was classed before sale a higher average price was received than in towns where the cotton was unclassed. Table VI gives a comparison of prices received for cotton that was classed before sale as compared with prices received for unclassed cotton in certain towns during this season. Prices received in the three towns where classing work was done averaged 30 points,

or $1.50 per bale, higher than prices received in the 11 towns at which cotton was not classed before sale. Furthermore, not a single town in which unclassed cotton was sold shows a higher average price than the average price for the same grades and dates in the three towns where classed cotton was sold. It will be observed that the average length of staple of cotton sold in towns where it was classed for producers is slightly less than the average length of staple where unclassed cotton was sold.

Special attention is called to Goldsboro as compared with Tarboro for the season 1914–15, in Table V. In this table Tarboro with classed cotton averages 15 points higher, or 75 cents per bale more than Goldsboro with unclassed cotton. A comparison of all sales on coinciding grades and dates for classed cotton during the 1915–16 season shows that the classed cotton sold at Goldsboro averaged 10 points higher than classed cotton sold at Tarboro. This indicates a net gain of 25 points, or $1.25 per bale, for classed cotton as compared with unclassed cotton sold in the same town.

Using the figures given in this table as a basis of comparison, it appears that had all the cotton produced in the Coastal Plain section been classed before sale the producers would have received approximately $1.50 per bale, or about $800,000, more than actually was received.

PIEDMONT SECTION.

The prices received for cotton classed before sale at Charlotte compared with prices received for unclassed cotton of the same grades sold on the same dates at other towns in the Piedmont section during the 1915–16 season are shown in Table VII. Classed cotton sold at Charlotte brought an average of 6 points, or 30 cents per bale, more than unclassed cotton sold at the other seven towns, notwithstanding the fact that the average length of staple of the cotton classed before sale was only 0.95 inch and the average length of staple of the unclassed cotton was 0.99 inch.

TABLE VII.—*Comparison of average price received for classed cotton and unclassed cotton of the same grades sold on the same days at towns in the Piedmont section during 1915–16 season.*

[Prices in boldface figures apply to town in boldface type. Prices in lightface figures apply to town in lightface type.]

Market selling classed cotton.	Markets selling unclassed cotton.							Average.	Average length of staple.
	Gastonia.	Kings Mountain.	Louisburg.	Raleigh.	Salisbury.	Statesville.	Wadesboro.		
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Inches.*
Charlotte	12.03	11.92	11.58	11.80	12.11	11.83	11.68	11.85	1.00
	11.80	**11.92**	**11.87**	**12.02**	**12.03**	**11.85**	**11.92**	**11.91**	**.95**
Length of staple in each town.	1.06	1.03	.94	.94	.94	1.03	1.00	.....	.....

Special attention is called to Gastonia as compared with Charlotte. The average price for unclassed cotton sold at Gastonia was 12.03 cents, while it was only 11.80 cents for the classed cotton sold at Charlotte. It will be observed, however, that the average length of staple at Gastonia was 1.06 inches, whereas the average length of staple at Charlotte was only 0.95, a difference of approximately one-eighth of an inch. While unclassed cotton sold at Gastonia brought 23 points, or $1.15 per bale, more than classed cotton sold at Charlotte, the real difference in value of the cotton was at least 60 points, or $3 per bale, more for the Gastonia cotton on account of the length of staple. This indicates that in this instance the cotton classed before sale brought $1.85 per bale more than the unclassed cotton, value being considered.

The cotton sold at Salisbury was not of greater value than that sold at Charlotte, but the fact that such a large portion of the cotton sold at Salisbury is purchased by supply merchants is believed to account for the consistent showing it made in this and other tables as a high market.

As there are about 300,000 bales produced in this section, Table VII indicates that at least $90,000 might have been saved the farmers of the Piedmont section had their cotton been classed before sale. Because of the inferior staple sold at Charlotte as compared with that sold at the other towns, it might be assumed that the producers of this section would have received $175,000 to $200,000 more for their cotton by having it classed before sale.

DIFFERENCE IN PRICES BETWEEN GRADES.

A comparison of the average difference in prices between grades on classed and unclassed cotton sold during the 1915–16 season is shown in Table VIII. These data were compiled in order to ascertain whether individual bales brought more nearly what they were worth if the owner were informed of the grade of the bale before sale. The information was obtained by finding the average price at which each grade sold at each town throughout the same period of time and determining the difference between these average prices.

It will be noted that the differences on grades below Middling were more favorable to the seller of unclassed cotton than to the seller of classed cotton. On the other hand, differences on grades above Middling were more favorable to the seller of cotton that had been classed before sale. Taking into consideration the fact that 48 per cent of the cotton was above Middling and only 27½ per cent below Middling, it will be seen that the differences used on classed cotton were more favorable to the seller than the differences used on unclassed cotton.

TABLE VIII.—*The average differences in price between grades of unclassed cotton during 1915–16 season.*

Markets selling unclassed cotton.	Good ordinary.	Strict good ordinary.	Low middling.	Strict low middling.	Middling.	Strict middling.	Good middling.	Strict good middling.	Section.
	Average differences quoted at Norfolk, Va.								
	Points.	*Points.*	*Points.*	*Points.*		*Points.*	*Points.*	*Points.*	
	200 off	150 off	100 off	37½ off	0	25 on	50 on	75 on	
Ahoskie	.....	.....	7 off	5 off	0	7 on	11 on	29 off	Coastal.
Charlotte	.....	.....	.....	.....	0	19 on	26 on	30 on	Piedmont.
Clinton	.....	.....	38 off	53 off	0	14 on	20 on	15 on	Coastal.
Fayetteville	.....	.....	64 off	27 on	0	11 on	20 on	.....	Do.
Gastonia	.....	.....	.....	.....	0	1 on	35 on	47 on	Piedmont.
Goldsboro	.....	.....	17 off	10 off	0	14 on	16 on	.....	Coastal.
Jacksonville	.....	45 off	15 off	2 on	0	1 on	11 on	13 on	Do.
Kings Mountain	.....	.....	.....	5 off	0	17 off	16 off	16 off	Piedmont.
Kinston	204 off	70 off	54 off	16 off	0	5 on	11 on	4 off	Coastal.
Laurinburg	69 off	49 off	34 off	4 on	0	15 on	18 on	.....	Do.
Louisburg	.....	.....	39 off	4 on	0	6 off	6 off	7 off	Piedmont.
New Berne	.....	.....	.....	26 off	0	3 on	7 on	5 on	Coastal.
Raleigh	.....	.....	50 off	56 off	0	35 off	36 off	77 off	Piedmont.
Red Springs	45 off	14 off	4 off	3 on	0	9 off	4 off	.....	Coastal.
Salisbury	.....	.....	.....	4 on	0	14 off	6 on	23 off	Piedmont.
Scotland Neck	.....	79 off	52 off	35 off	0	14 on	33 on	.....	Coastal.
Selma	.....	.....	10 off	10 off	0	25 on	25 on	34 on	Do.
Statesville	.....	.....	1 off	.....	0	5 on	31 off	37 on	Piedmont.
Wadesboro	120 off	27 off	46 off	10 off	0	11 on	13 on	15 on	Do.
Washington	.....	168 off	1 off	.....	0	6 on	9 off	.....	Coastal.
Average differences used on unclassed cotton.	128 off	84 off	52 off	21 off	0	3 on	7 on	12 on	
Average differences used on classed cotton at Charlotte, Goldsboro, Tarboro, and Wilson.	195 off	123 off	58 off	23 off	0	22 on	34 on	38 on	
Per cent of each grade in State.	1	3½	8	15	25	29	15	4	

Failure to make proper differences between grades in the purchase of unclassed cotton is not confined to any section of the State. However, a study of Table VIII reveals the fact that, as a rule, in the Piedmont section insufficient premiums are paid for the grades above Middling, while in the Coastal Plain section the differences on grades above Middling are more nearly correcct. This fact seems to indicate, and personal investigation has confirmed this belief, that while approximately correct differences may be used by buyers in the purchase of grades that are not sold in quantity at a town, differences favorable to the purchaser are used if the grade is produced in quantity.

An example of the abuses which the classing service might hope to correct was observed in Mecklenburg County. Among the samples received from a certain gin all the cotton belonging to one producer was 1¼ inches in length of staple. With the aid of his class cards this producer disposed of his cotton for 16 cents per pound. He stated that he had been producing 15 to 20 bales per year of the same variety of cotton for five or six years and that while he thought

that his cotton had good staple, he never before had received more than the ordinary short-staple price. This producer received about $20 a bale more than he would if his cotton had not been classed, amounting to about $400 for his entire crop. At this rate he has suffered a total loss of about $2,000 during the last five years by not knowing the class of his cotton. While this case is probably exceptional, it indicates the possible loss to the farmer of not knowing the class of his cotton.

It may be concluded, therefore, that the higher prices that many producers were able to secure for cotton that had been classed, as compared with unclassed cotton, were largely due to the application of differences that were approximately correct. Were there no economic gain to the producers as a whole in having cotton classed before sale the fact that many individuals would secure more nearly that to which they are justly entitled is ample reason for rendering classing service.

COMPARISON OF SALES MADE AT PRIMARY MARKETS WITH SALES MADE AT NORFOLK, VA.

Considerable cotton is shipped by producers in the eastern part of North Carolina to Norfolk, Va., to be sold there by brokers, and data were received and compiled for about 1,000 bales of classed cotton sold there.

The data for the 1914–15 season tabulated by the department show that the average price received for cotton sold at Norfolk was 7.09 cents, while the average price at which the same grades were sold on the same dates at Fayetteville, Scotland Neck, and Tarboro was 6.56 cents, a difference of 53 points, which was partly offset by an average freight rate of 28½ points, leaving a net discrepancy of 24 points.

A similar comparison is shown in Table IX for the 1915–16 season for all of the towns from which data were secured, covering coinciding grade and date sales. This table shows an average difference in favor of Norfolk of 43 points, which is subject to a deduction on account of freight rates of 32 points, leaving a net difference of 11 points.

TABLE IX.—*Average prices received for the same grades of cotton on the same dates in North Carolina primary markets and Norfolk, Va., 1915–16 season.*

[Prices in boldface figures apply to town in boldface type. Prices in lightface figures apply to towns in lightface type.]

	Ahoskie.	Clinton.	Fayetteville.	Jacksonville.	Kinston.	Laurinburg.	Red Springs.	Scotland Neck.	Tarboro.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
	11.59	11.63	12.00	11.55	12.50	11.07	10.35	11.33	10.88	11.43
Norfolk	**11.84**	**12.00**	**11.50**	**12.01**	**12.13**	**11.83**	**11.91**	**11.95**	**11.54**	**11.86**

TABLE X.—*Current freight rates on cotton, uncompressed, in cents per 100 pounds, July 19, 1916.*

From—	To—				
	Norfolk, Va.	Wilmington, N. C.	Greensboro, N.C.	Charlotte, N.C.	Charleston, S. C.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Ahoskie	20	30	37	40	45
Charlotte	44	34	25	.....	44
Clarkton	40	18	36	30	40
Clinton	39	31	34	39	40
Fayetteville	40	24	26	30	32
Gastonia	48	35¼	27	13	51
Goldsboro	27	33¼	28	40	40
Jacksonville	35	[a] 75	38	38	40
Kings Mountain	48	51	38	16	51
Kinston	25	25	30	39¼	45
Laurinburg	40	25	32½	24	35
Louisburg	39	40	29½	37	.....
Nashville	30	28	32	38	45
New Berne	17	17	35	40	45
Raeford	42	29	39.45	31.2	42
Raleigh	39	32	28	33	46
Red Springs	40	26	29	27	31
Salisbury	44	44	19	18	44
Scotland Neck	25	26¼	34	39	45
Selma	39	26	26	36	40
Statesville	44	44	23	18	51
Tarboro	20	20	33	38	45
Wadesboro	44	29	33	19	31
Washington	17	19	37	40	45
Wilson	27	25½	30	37	40

[a] Applies per bale of 500 pounds or less; bales weighing over 500 pounds will be charged for in proportion.

The freight rates from all the primary markets studied in this investigation to Norfolk, Va., and all other concentration points affecting these markets are given in Table X. Considering the fact that those points having the highest freight rates are nearer to markets other than Norfolk and in practically all cases ship to them, there appears to be an advantage of about $1 per bale, after deducting brokerage and other charges in shipping to Norfolk.

A comparison of all sales of cotton classed for producers, made in Norfolk during the seasons of 1914–15 and 1915–16, with the quotations of that market for the dates on which these sales were made, shows that actual sales made at that point were uniformly about 11 points higher than the quotations. However, the figures do not in every instance show that the basis price on sales was higher than the quotations, but that frequently the price was raised by the use of better differences than those quoted.

Indiscriminate shipping to Norfolk is not recommended, as it probably would not be profitable unless the farmer knew the class of his cotton. Farmers who knew the class of their cotton and shipped to Norfolk were fortunate in the sale of their cotton. Since this city quotes what is supposed to be the daily prevailing price, the shippers were able to refuse offers which they knew were not in accordance with current quotations. As an example, one farmer who had class cards shipped 45 bales to a broker, with

instructions that offers be submitted to him before the sale was made. The broker called him on the telephone late one afternoon, after all exchanges had closed, and advised that he was offered 7⅝ cents a pound for the lot. The farmer told the broker that he knew the lot would run a few points on Middling and that as the market was quoting Middling at 8 cents he felt that he should at least receive that price. The next morning the farmer received a check covering the sale of the cotton at 8 cents. Thus a difference of about $1.88 per bale, or $85 for the lot, was obtained which undoubtedly would have been lost to this farmer if he had not been informed as to the class of his cotton.

COMPARISON OF SMALL AND LARGE LOT SALES.

A study of all comparable large and small lot sales shows that the producers who sold in large lots secured higher prices than the producers who sold only one or two bales at a time. For the season of 1914–15 a comparison of prices received for lots containing 10 or more bales with the average price received for single bales of the same grades sold on the same date shows an average difference in favor of the larger lots of 29 points, or $1.45 per bale. Sixteen large lots, comprising 867 bales, were used in this comparison, the lots ranging from 10 to 168 bales.

For the 1915–16 season a comparison of lots ranging from 20 to 159 bales showed a difference of 17½ points, or $0.85, per bale for the larger lots. The data compiled showed that there was no appreciable difference in prices between the sale of 20-bale lots and those containing 50 or more.

There seem to be two principal reasons for the increased price which large lots usually bring, one being the natural tendency of the buyer to grade the large lot carefully and buy it at a smaller profit per bale than he would the single bales, and the other being the inducement to the large producer, if he did not receive an offer in keeping with his grades, to ship his cotton to a point where he could obtain competitive offers. Such an opportunity is not usually open to the man with one or two bales.

It appears conclusive, therefore, that there is a material advantage in selling in reasonably large lots. This fact should be borne in mind by cotton producers, as an increased price generally can be secured without serious inconvenience to individuals. Cooperative selling organizations will best meet this need and are recommended. However, farmers who are unable to perfect organizations of this character in their neighborhood can undoubtedly secure higher prices merely by selling together.

OTHER ADVANTAGES DERIVED FROM A KNOWLEDGE OF CLASS.

Among the other advantages derived from a definite knowledge of grade before sale it was observed that such knowledge was of considerable importance in settlements between landlords and tenants, in that it formed an equitable basis for adjustment when the rent notes called for a certain number of pounds of a designated grade. Merchants who had not handled sufficient cotton to become proficient classers were able to use the class cards to advantage in the purchase and sale of cotton.

Data compiled indicated that at markets where classed cotton was sold the price of unclassed cotton was approximately 10 points, or 50 cents, per bale higher than it was in markets where no classing was done. This fact has an important bearing upon the amount of money that has been saved to the cotton producers of North Carolina during the seasons of 1914–15 and 1915–16.

CONCLUSIONS.

The samples of cotton which were graded and stapled during the 1914–15 and 1915–16 seasons showed an average grade for the two seasons of slightly above Middling. The use of more modern gins, especially in the Coastal Plain section, would raise the average grade produced in the State. The fact that only 3½ per cent of the cotton in the bales sampled was less than ⅞ of an inch in length of staple should be of great importance, since according to the United States cotton futures act ⅞ of an inch is the shortest length tenderable on future contracts.

The producers of North Carolina are not securing the advantage that proximity to the mills should give, through failure to produce the lengths of staple required by them. Care in selecting varieties for planting tends to improve this situation.

Marketing conditions on the whole are better in the Piedmont than in the Coastal Plain section. The grade and staple of individual bales are given reasonable consideration in the purchase of cotton in the Piedmont section, although inadequate premiums are paid for the higher grades. In the Coastal Plain section practically no distinction in price is made by the buyers between bales of different lengths of staple.

Sales made for the purpose of settling accounts are at a higher rate than are cash sales on coinciding dates and grades. The range of prices for credit sales is greater than the range of prices for cash sales. As a rule, however, this is not the economic gain that it appears, as the fact undoubtedly is taken into consideration in setting the price at which the goods, represented by the account, are sold.

It appears from the investigation that the average producer who knew the class of his cotton obtained about $1.15 per bale more than the farmer who was not furnished such information. Should this hold true for the whole crop, the producers of North Carolina would save over a million dollars by having their cotton classed before they sell it. Counties which produce five thousand or more bales would probably find it practicable and financially worth while to take advantage of benefits of the State grading law referred to in the footnote on page 2.

The relative value of different grades and lengths of staple is more nearly approximated in the sale of cotton, the class of which is known to the producer, than in the sale of unclassed cotton. It is reasonable to suppose that when the farmer is assured that his cotton is accurately and impartially classed and bought as classed, he will appreciate the advantage of exercising greater care in choosing the variety to be planted and also more care in the picking and handling in order to improve the grade and staple so that he may receive the premium which the superior product will bring.

Producers who sold in lots containing ten or more bales obtained from 88 cents to $1.45 per bale more than the producers who sold one or two bales. Classing is only the first step and pooling or selling organizations should be formed if the full benefits of classing are to be realized.

Norfolk, Va., seems an advantageous market for certain towns in eastern North Carolina, provided the shipper knows the class of his cotton. If the farmer does not know the value of his product, he is not only incompetent to dispose of it locally in an intelligent manner but is also unable to tell whether he is receiving full value if he sells it at a distant market.

Accurate knowledge of the grade of bales enables merchants who buy cotton in settlement of accounts to pay the individual farmer more nearly what his particular cotton is worth and to secure better prices for themselves when selling.

The sale of classed cotton at a primary market increased the price paid for unclassed cotton sold at that market about 10 points, or 50 cents per bale.

Investigations conducted in Arkansas by the Office of Markets and Rural Organization during the 1913–14, 1914–15, and 1915–16 seasons corroborate the conclusions drawn in this bulletin as to the value of a knowledge of the class of cotton before sale and the advantages derived from selling in large lots.

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